

**AMENDMENTS TO THE SPECIFICATION**

Please replace the following paragraphs with the amended paragraphs:

**Paragraph on page 39, lines 6-10**

If the operator provides transition percentages only at block 1208, the processing continues at block 1214 at which the transition percentages are received. In the illustrative embodiment, the transition percentages are provided by the operator through user interface 116. In an alternative embodiment, transition percentages can be fixed values or included in a system configuration file. The global/local flag is received at block 1225.

**Paragraph on page 40, lines 4-10**

Should the operator provide global transition voltages to block 1208, then the processes depicted in connection with 1214 through 1220 need not be performed. Rather, at block 1222 the global transition voltages are received and processing continues at block 1224. In the illustrative embodiment, the global transition voltages are provided by the operator through user interface 116. In ~~alternatives embodiment~~, alternative embodiments, transition voltages are provided using other well-known techniques, such as being fixed values, or included in a system configuration file. Processing then continues at block ~~1220~~ 1224, as shown in Figure 12.

**Paragraph on page 44, lines 4-12**

When the operator selects the "Apply" button ~~932~~, graphical user interface 116 converts the data in the data entry fields of dialog box 900 into a syntax string and provides the resulting string to searcher 502 as search criteria 520. Searcher 502 then searches pulse data array 206 using the specified search criteria 520. In an alternative embodiment, upon selection of the "String Entry" button ~~932~~ 934 a single data field is displayed in which the operator can enter the search criteria in the form of a string. In command string entered and, perhaps, provides some form of assistance to educate the operator on the detail of the implemented syntax

**Paragraph on page 48, lines 8-31**

For example, referring to Figure 6, pulse number 404 associated with subset index 608 of 1 in subset array 602 is retrieved by sorter 504. Sorter 504 then queries pulse data

array 206 with pulse number 5. The associated pulse characteristics are applied to sort criteria 524 and the associated subset index 608 is assigned temporarily a sort index of 1. Then, sorter 504 accesses subset index array 602 and retrieves pulse number 404 associated with the second subset index, pulse number 27. Sorter 504 then accesses pulse data array 206 in a similar manner. Sorter 504 then applies sort criteria 524 to both pulse 5 and pulse 27 to determine the relative order of the two pulses. The result is subset index 2 being assigned a sort index of 2. It should be understood that there are many sorting methods that can be used by sorter 504 and that this description is merely illustrative in nature. The same process is repeated for the next pulse number in subset index array 602. When sort criteria 524 is applied to pulses 5, 27 and 180, the resulting sort indices are rearranged such that pulse 180 occurs prior to pulse 5, and pulse 5 occurs prior to pulse 27. This repeated reevaluation continues for all pulses in subset index array 602, resulting in the sorted list of pulses in sort index array 604 having an order of 180, 5, 641, 972, 850, 324, and 27. Sort array 604 includes, therefore, the subset index array indices of 3, 1, 5, 7, 6, 4 and 2 corresponding with the pulse order of 180, 5, 641, 972, 850, 324, and 27, respectively. The subset indices 608 are indexed in sort index array ~~512~~ 604 by a sequential sort index 612. Thus, as shown in Figure 6, sort index array 604 has a sequentially numbered sort index 612 from 1 to 7, with an associated subset index 608 of 3, 1, 5, 7, 6, 4, 2. As noted with respect to subset index array 602 and sort index array 604, three entries in sort index array 604 that are called out with reference numbers 7A-7C. These will be described in detail below.

**Paragraph on page 49, lines 27 to page 50, line 4**

**3. Pulse Locator ~~502~~ 506**

Pulse locator ~~502~~ 506 utilizes search arrays 516 to efficiently access pulse data array 206 to retrieve pulse characteristics for a particular pulse of interest. Pulse locator 506 causes the display of a selected pulse waveform and associated measurement results for that selected pulse. In addition, a pulse selection window is also presented on graphical user interface 116 to enable the operator to select specific pulses of interest from the searched or sorted lists of pulses, as well as from the pulse data array 206 directly.

**Paragraph on page 50, lines 5-16**

Pulse locator ~~502~~ 506 accesses pulse data array 206 with a pulse number 534 and retrieves selected pulse characteristics 212, represented by the transfer of pulse information

536 from pulse data array 206 to pulse locator 506. There is a bi-directional transfer of pulse information between user interface 116 and pulse locator 506 to effect the desired transfer of information noted above. Specifically, as shown in Figure 5, pulse locator 506 receives a pulse number 526, search occurrence number 528 and sorted occurrence number 530 from graphical user interface 116. Through the selection of these values, the operator can select for display the measurement results and waveform display of a desired pulse 1004. In addition, these same values are updated by pulse locator 506 to reflect the relevant information pertaining to the operator-selected pulse 1004. Accordingly, the same values are also shown as also being transferred from pulse locator 506 to user interface 116.

**Paragraph on page 51, lines 11-20**

Generally, each pulse selection window 702A-702C includes a pulse number field 704 in which pulse number 404 is displayed. This field has spin buttons and can receive data. As such, the operator can select the pulse number of the pulse that is to be displayed in waveform display region 1002 and for which the corresponding measurement results are to be displayed in measurements region ~~4004~~ 1008. The changing of the value in this field results in the generation of pulse number 526 from user interface 116 to pulse locator 506. Similarly, when the selected pulse 1004 changes due to other causes (described below), the displayed pulse number changes in field 704 in response to the transfer of pulse number 526 from pulse locator 506 to user interface 116.

**Paragraph on page 51, line 21 to page 52, line10**

In an occurrence number field 706 subset index 608 is displayed. This displayed value indicates the position of the selected pulse (the number 404 of which is concurrently displayed in field 704) relative to the other pulses that satisfied search criteria 520. This field also has spin buttons and can receive data. As such, the operator can select the pulse that is to be displayed in waveform display region 1002 and measurements region ~~4004~~ 1008 by adjusting the value of the number displayed in occurrence number field 706. The changing of the value in this field results in the transfer of search occurrence number 528 from user interface 116 to pulse locator 506. Similarly, when selected pulse 1004 changes due to other causes, the displayed search occurrence number in field 706 also changes in response to the generation of a search occurrence number 528 by pulse locator 506 to user interface 116. As noted, pulse locator 506 can access pulse data array 206 directly to display relevant

information in dialog box 1000. In other words, through the selection of pulse number 404 in pulse number field 704 the operator can select any pulse in pulse data array 406, and the pulse numbers 404 available to the operator are not restricted to displaying those pulses that satisfied search criteria ~~420~~ 520. Should the operator select such a pulse number, then pulse locator ~~406~~ 506 accesses directly pulse data array 206 without utilizing search array ~~416~~ 516. In such circumstances, there is no associated occurrence number 706 or sorted occurrence number 708, and a graphic such as "not available," "N/A," or simply dashed lines "---" are displayed in those fields.

**Paragraph on page 52, lines 11-23**

In a sorted occurrence number field 708 sort index 612 is displayed. The displayed sort index value indicates the position of the selected pulse relative to the other pulses that satisfied search criteria 520 and were sorted in accordance with sort criteria 524. This field has spin buttons and can receive data. As such, the operator can select the pulse that is to be displayed in waveform display region 1002 and measurements region ~~1004~~ 1008 by adjusting the value displayed in sort occurrence number field 708. The changing of the value in this field results in the transfer of the selected sorted occurrence number 530 from user interface 116 to pulse locator 506. Similarly, when selected pulse 1004 changes due to other causes, the displayed sorted occurrence number changes in field 708 in response to the transfer of a sorted occurrence number 530 from pulse locator 506 to user interface 116. As noted, should the pulse number selected for display not be a pulse that satisfied search criteria ~~524~~ 520, then some symbol is displayed in field 706 to indicate this circumstance.

**Paragraph on page 52, line 24 to page 53, line 6**

In a pulse center time field 714 center time 408 is displayed. The displayed value of center time 408 indicates the time of occurrence of the pulse relative to the trigger event that cause the acquisition of the signal. This field can receive data and has spin buttons. As such, the operator can select the time of the pulse that is to be displayed in waveform display region 1002 and measurements ~~1004~~ 1008. The changing of the vale in this field results in the transfer of time value 532 from user interface 116 to time finder 508. As will be described in detail below, time finder 508 identifies the pulse that is closest to the entered time and displays that pulse information in the other fields of pulse selection window 702. Similarly, when selected pulse ~~1014~~ 1004 changes due to other causes, the displayed center

time changes in field 714 in response to the transfer of a time value 533 by pulse locator 506 to user interface 116. Should the pulse number of the pulse closest in time to the entered time not be a pulse that satisfied search criteria ~~524~~ 520, then some symbol or text is displayed in fields 706 and 708 to indicate this circumstance.